CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
81 HIGUERA STREET, SUITE 200
SAN LUIS OBISPO, CALIFORNIA 93401-5427

SWIS #44-AA-0004

ORDER NO. 94-29

WASTE DISCHARGE REQUIREMENTS FOR BUENA VISTA CLASS III LANDFILL SANTA CRUZ COUNTY

The California Regional Water Quality Control Board, Central Coast Region (hereafter Board), finds that:

1. The County of Santa Cruz (hereafter "Discharger") owns and operates the County of Santa Cruz Buena Vista Class III Landfill (hereafter "Landfill").

2. The approximately 134 acre Landfill is located in the coastal region of Santa Cruz County, approximately one mile west on Buena Vista Drive from State Highway 1 at 150 Rountree Lane (office) and 1231 Buena Vista Drive (facility entrance), Watsonville California, 95076. The Landfill is located in Section 1, Township 12 South, Range 1 East, Mount Diablo Base and Meridian, Santa Cruz County, as shown on **Attachment A** included as part of this Order.

3. These waste discharge Requirements (WDRs) are being revised/updated to incorporate criteria currently applicable to solid waste disposal sites, particularly:

   a. criteria established in California Code of Regulations, Title 23, Division 3, Chapter 15 (Chapter 15), including Article 5, pertaining to landfill water quality monitoring and response programs, as amended July 1, 1991; and

   b. criteria established in 40 CFR Parts 257 and 258 Solid Waste Facility Disposal Criteria, Final Rule (Known as "Subtitle D"), as promulgated October 9, 1991.

4. This Order revises/updates and replaces Order No. 90-005, as adopted on January 12, 1990. In addition, this Order is intended to cover all items of Order 93-84 adopted by the Board on October 8, 1993. Implementation of applicable revised Article 5 monitoring requirements and various other pertinent landfill changes, including compliance with federal (Subtitle D) landfill regulations, will bring the Landfill into compliance with current landfill requirements.

Physical Description

5. Land use within 1000 feet of the Landfill includes; agricultural, institutional, residential, and solid waste disposal. The landfill is bordered by the Southern Pacific Railroad on the west, Buena Vista Drive to the North, Harkins Slough Road to the east, and a Sheriff's rehabilitation facility to the south. The City of Watsonville operates the Watsonville landfill which is located west of the Buena Vista landfill directly across the Southern Pacific track. Migrant farm worker housing is adjacent to the Sheriff's facility.

6. The site is a naturally occurring valley within an uplifted marine terrace. It lies within a broad band of gently rolling hills of the Monterey Bay coastal plain. This gentle terrain has been incised by numerous small streams draining southward to the Pajaro River, including Harkins Slough east of the site and Gallighan Slough to southwest. Ground surface elevations at the site range from 10 to 120 feet mean sea level. The natural topography of the site rises in a northerly direction at an average slope of approximately 4 percent.

7. The Discharger's data demonstrate natural geologic materials between the base of the landfill and ground water cannot ensure that degradation of beneficial uses of ground water beneath or adjacent to the Landfill will not occur.

8. The site is underlain by Manresa dune sands which overlie fluvial terrace deposits made up of interbedded clays, silts, and sands. Below this lies Aromas Sands Formation which consist of up to 800 feet of dune sands and interbedded fluvial sands, gravels, silts, and clays. All three units are of the Quaternary period. Tertiary Purisima Formations underlie the Aromas Formation. Although parts of the Purisima and Aromas formations have been faulted and folded by activity, the bulk of the Quaternary section is unaffected. The permeability of the sediments immediately underlying the Landfill is estimated to be 1.8×10^{-3} centimeters per second (cm/sec).

9. Seismic studies in the area show the Northern San Andreas fault, nine miles from the site, with a maximum probable earthquake (MPE) of Richter magnitude 8.0, would yield the highest peak horizontal acceleration at the site. A maximum peak ground surface acceleration of approximately 0.60g is predicted as a result of this MPE. The liquefaction potential at the site is considered low.

10. The landfill lies within the Pajaro River Valley. Surface drainage is diverted around the landfill to Gallighan Slough. Gallighan Slough joins Harkins approximately one half mile south of the site. Harkins Slough is a tributary of Watsonville Slough which discharges to the mouth of the Pajaro River at the Pacific Ocean. The average annual rainfall at the site is 21.5 inches. Refuse disposal areas do not encroach within the 100-year flood plain and are above any inundation caused by a 100-year flood.

Water Resources

11. Two aquifer systems are located below the landfill site. The Aromas Formation is the uppermost and is the principal water bearing formation in the site vicinity. Well water levels at approximately sea level correspond to the approximate geologic contact between the terrace deposits and the underlying Aromas sands formation. Groundwater in the Aromas Formation flows southeast with a gradient of approximately 0.002 ft/ft. The deepest aquifer is found in the Purisima formation. The use of this aquifer is limited since the Aromas formation yields ample water for area needs. Groundwater in the deeper Purisima flows east toward the valley floor.

12. Wells MW-01, MW-02, MW-03, MW-04, MW-05, MW-06, MW-07, and MW-08 are screened in the Aromas aquifer. The Purisima aquifer is not monitored.

13. There are approximately 50 documented ground water wells within a one-mile radius of the site. The nearest domestic well to the site is located 1/2 mile northwest at a private residence.

14. Ground water in outlying areas is generally of good quality for domestic and agricultural uses. Average Aromas formation ground water quality, using MW-1 histories, is as follows:

Electrical Conductivity	823	(umhos/cm)
pH	6.9	
Nitrate (N)	2.19	(mg/l)
Chemical Oxygen Demand	6	(mg/l)
Total Dissolved Solids	526	(mg/l)

15. Nitrate levels above Federal Primary Drinking Water Maximum Contamination Levels have been recorded in MW-06 and MW-03 since March 1990. The level of nitrates has remained stable over the years.

Beneficial Uses

16. The Water Quality Control Plan, Central Coast Basin (Basin Plan), was adopted by the Board on November 17, 1989, and approved by the State Water Resources Control Board on August 16, 1990. The Basin Plan incorporates statewide plans and policies by reference and contains a strategy for protecting beneficial uses of State Waters. This Order implements the water quality objectives stated in that Plan.

17. Present and anticipated beneficial uses of surface waters, specifically the Gallighan and Watsonville Sloughs, downgradient of the discharge include:

    a. non-contact water recreation;
    b. wildlife habitat;
    c. ground water recharge; and
    d. warm fresh water habitat.

18. Present and anticipated beneficial uses of ground water in the vicinity of the discharge include:

    a. municipal and domestic supply;
    b. agricultural supply.

Landfill Specifics

19. The Landfill operates under various permits, other than these Waste Discharge Requirements, including;

    a. Solid Waste Facilities Permit No. 44-AA-004 issued June 1985 by the Santa Cruz County Environmental Health Department.

    b. Permit to Operate (a landfill gas extraction system) No. 6967, issued November 1993 by the Monterey Bay Unified Air Pollution Control District.

    c. Statewide General Industrial Activities Storm Water Discharge Permit, Buena Vista Landfill #3-44S001258, October 1992.

20. The Buena Vista site is composed of five modules and a closed landfill area and operated by cut and fill. All modules are developed chronologically and filled to 100-120 feet in height initially. After all modules are filled to this level the whole site will be filled to create final contours. Module 1 has been filled to the initial level. Module 2 was developed in early 1990 and began receiving waste on April 24, 1990. Module 2 is currently being filled and expected to reach initial level by fall 1994. Remaining waste capacity is 5.381 million cubic yards resulting in a projected landfill life of 26 years.

21. The Landfill meets the criteria of the California Code of Regulations as stated in Chapter 15 for classification as a Class III landfill suitable to receive non-hazardous solid wastes. This Order implements the prescriptive standards and performance goals of Chapter 15, as adopted by the State Water Resources Control Board on October 18, 1984, and as amended on July 1, 1991.

22. Wastes containing greater than one percent (>1%) friable asbestos are classified as hazardous under California Code of Regulations, Title 22. Since such wastes do not pose a threat to water quality, Section 25143.7 of the Health and Safety Code permits its disposal in permitted landfills, providing waste discharge requirements specifically allow the discharge and the wastes are handled and disposed in accordance with other applicable State and Federal statutes and regulations.

23. Recovery and recycling activities are as follows:

    a. Wood waste is collected on-site and diverted to a separate stockpiling/processing area on top of the completed disposal area (see attachment B). The wood is periodically chipped and transported off-site for use as fuel.

    b. Clean concrete is stockpiled on the completed disposal area and periodically processed and removed.

    c. Tires are collected and stored in a forty-foot long enclosed trailer. The trailer is replaced by an empty trailer every 3-6 weeks. The waste tires are processed off-site and recovered as a supplemental fuel source.

    d. A recycling drop off center, operated by Waste Management, Incorporated under contract with the County, is located on site. The center collects glass, aluminum, ferrous and other non-ferrous metals, white goods, PET and HDPE plastics, cardboard, newspaper, used oil and oil filters, used antifreeze, and used auto batteries. Waste Management Incorporated also operates a small Materials Recovery Facility which separates materials recovered in the Counties curbside recycling program.

    e. The County operates a Household Hazardous Waste Collection Facility on site. The facility receives an estimated four to five tons of hazardous and non-hazardous (latex paints and cleaners) wastes monthly. The collected waste are stored for no longer than ninety days before being shipped to an approved hazardous waste disposal facility.

24. All landfill personnel have been trained in basic hazardous materials recognition. Load checking is conducted periodically at the landfill gate house. Household hazardous waste found during these surveys is processed through the collection center. No commercially generated hazardous wastes are accepted at the landfill facility.

25. The Buena Vista landfill is located within 10,000 feet of the Watsonville Airport which is used by Turbojet aircraft. For this reason the landfill operates an extensive bird control program in accordance with Subtitle D requirements. No problems have been encountered at the airport as a result of landfill bird populations.

26. The County operates a Gas Control System at the Buena Vista landfill. Recovered gas is burned in a flare at the site. In the future the County may use existing on-site engine generator sets to produce electricity from the extracted landfill gas.

27. Leachate collection and recovery systems are in place for all waste containing areas of the Buena Vista landfill. All systems utilize a sump which is pumped to a holding tank. The holding tanks are emptied periodically and the leachate is trucked to the County Sanitation District for disposal.

28. The site development and sequencing plan are included in the Report of Disposal Site Information dated August 1993.

29. A Preliminary Closure and Postclosure Maintenance Plan dated July, 1993 was submitted to the Board in August, 1993.

30. Due to revisions of Article 5, of Chapter 15, the Discharger submitted a July 1992 Report of Waste Discharge to update waste discharge requirements (requirements) for the Landfill, including a monitoring and reporting program. It includes proposals for an improved ground water detection monitoring program, surface and vadose zone monitoring programs and the establishment of a financial assurance instrument to cover all expenses related to future corrective action costs.

31. On October 9, 1991, the Environmental Protection Agency (EPA) promulgated regulations pertaining to solid waste disposal facilities known as 40 CFR, Parts 257 and 258 Solid Waste Disposal Facility Criteria, Final Rule (also known as Subtitle D). Subtitle D implementation/applicability is as follows:

    a. MSW Landfills with WDR's that stopped receiving waste on or before October 9, 1991 are exempt from Subtitle D except for monitoring requirements and deed restrictions.

    b. Units that received waste on or after October 9, 1991, but stop prior to October 9, 1993, must meet only the final cover requirements specified in Section 258.60(a).

    c. Units that received waste on or after October 9, 1993 must comply with all requirements of Subtitle D.

    As of October 9, 1993, the Subtitle D regulations have been self-implementing. California has received U.S. EPA authorization (became an "Approved" State) to implement the federal Subtitle D regulations. All Part 258 requirements are effective, except subpart G of Part 258 (financial assurance requirement), which becomes effective April 9, 1994.

32. Discharge of waste is a privilege, not a right, and authorization to discharge waste is conditioned upon the discharge complying with provisions of Division 7 of the California Water Code and with any more stringent limitations necessary to implement the Basin Plan, to protect beneficial uses, and to prevent nuisance. Compliance with this Order should assure conditions are met and mitigate any potential changes in water quality due to the project.

33. These Waste Discharge Requirements contain prohibitions, discharge specifications, water quality protection standards, and provisions intended to protect the environment by mitigating or avoiding impacts of the project on water quality. These Waste Discharge Requirements are for an existing facility and as are exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, Section 15301.

34. On January 26, 1994, the Board notified the Discharges and interested agencies and persons of its intention to update the waste discharge requirements for the discharge and has provided them with a copy of the proposed order and an opportunity to submit written views and comments.

35. After considering all comments pertaining to this discharge during a public hearing on April 8, 1994, this Order was found consistent with the above findings.

IT IS HEREBY ORDERED pursuant to authority in Section 13263 of the California Water Code, the County of Santa Cruz, its agents, successors, and assigns may discharge wastes at the Buena Vista Class III Landfill, providing compliance is maintained with the following:

(Throughout these requirements, footnotes are listed to indicate the source of requirements specified. Requirement footnotes are as follows:

a=CCR, Title 23, Chapter 15
b=Basin Plan
c=CFR, Part 257 and 258 (Subtitle D)
d=California Water Code

Requirements without footnotes are based on professional judgment.)

A. DISCHARGE PROHIBITIONS

General Prohibitions

1. Discharge of waste outside the "designated disposal area", as specified in the most recent version of the Operations Plan and identified in **Attachment B** of this Order, is prohibited.

2. Discharge of solid wastes within the "designated disposal area", where refuse placement has not occurred, is prohibited; unless a composite liner system, as described in Discharge Specification B.35, is provided.[c]

3. Discharge of hazardous waste, except for waste that is hazardous due only to its asbestos content, is prohibited. For the purposes of this Order, the terms hazardous waste is as defined in Chapter 15.[a]

4. Discharge of designated waste is prohibited except when the discharger demonstrates to the Executive Officer's satisfaction that waste constituents present a lower risk of water quality degradation than indicated by this classification. For the purpose of this order the term "designated waste" is defined in Chapter 15.[a]

5. Discharge of "liquid wastes" or "semi-solid wastes" (i.e., wastes containing less than 50 percent solids by weight), other than leachate and gas condensate as described in Discharge Specification B.20 and dewatered domestic sludge is prohibited. Exemptions to discharging wastes containing less than 50% solids by weight may be granted by the Executive Officer if the Discharger can demonstrate the discharge will not exceed the moisture-holding capacity of the Landfill, either initially or as a result of waste management operations, compaction, and/or settlement.[a]

6. Discharge of dewatered sewage or water treatment sludge, which contains less than 50% solids by weight to any Landfill areas, shall meet conditions identified in Discharge Specification B.17.[a]

7. Discharge of waste to ponded water from any source is prohibited.[a]

8. Ponding of liquids over solid wastes is prohibited.[a]

9. Discharge of leachate or gas condensate containing hazardous concentrations of constituents is prohibited.[a]

10. Discharge of wastes that would reduce or impair the integrity of containment structures is prohibited.[a]

11. Discharge of wastes which, if commingled with other wastes in the unit, could produce violent reaction, heat or pressure, fire or explosion, toxic by-products, or reaction products which in turn:

    a. require a higher level of containment than provided by the Landfill,

    b. are restricted hazardous wastes, or

    c. impair the integrity of containment structures,

    is prohibited.[a]

12. Discharge of wastes within five (5) feet of the highest anticipated water table elevation, including the capillary fringe, is prohibited.[a]

13. Discharge of waste within 50 feet of the property line, 100 feet of surface waters, or 100 feet of domestic water supply wells is prohibited.

14. Discharge of solid or liquid waste or leachate to surface waters, drainageway(s), or ground water, is prohibited.

15. Discharge of solid or liquid waste containing free liquid or moisture in excess of the waste's moisture holding capacity is prohibited. Waste must pass the paint filter test to determine if free liquids are present.[a,d]

16. Discharge of waste solvents, dry cleaning fluids, paint sludge, pesticides, phenols, brine, and acid and alkaline solutions is prohibited.[a]

17. Discharge of oils or other liquid petroleum products is prohibited.

18. Discharge of chemical and biological warfare agents is prohibited.

19. Discharge of leachate or landfill gas condensate to any landfill WMU is prohibited, unless:

    a. The landfill gas condensate or leachate is being returned to the landfill waste management unit that produced it; and

    b. The portion of the landfill to which these materials are discharged is equipped with a containment system as outlined in Discharge Specification B.35[c].

B. DISCHARGE SPECIFICATIONS

General Specifications

1. The Discharger shall implement the attached Monitoring and Reporting Program (MRP) No 94-29 in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Unit, or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste to the Unit.[a]

2. Discharge of waste shall not cause the concentration of any Constituent of Concern or Monitoring Parameter to exceed its respective background value, as defined in the current Monitoring and Reporting Program, in any monitored medium at any Monitoring Point assigned to Detection Monitoring pursuant to the current version of the MRP.

3. Discharge of waste shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of pollution or nuisance to occur, as indicated by the most appropriate statistical (or non-statistical) data analysis method and retest method listed in the MRP, Part II.[a,d]

4. Discharge of waste shall neither cause nor contribute to the pollution of ground water via the release of waste constituents in either liquid or gaseous phase.

5. Discharge of waste shall neither cause nor contribute to any surface water pollution or nuisance, including, but not limited to:

    a. Floating, suspended, or deposited macroscopic particulate matter or foam;

    b. Increases in bottom deposits or aquatic growth;

    c. An adverse change in temperature, turbidity, or apparent color beyond natural background levels;

    d. The creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin;

    e. The introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.

6. The discharge of waste shall not cause any increase in the concentration of waste constituents in soil-pore liquid, soil, or other geologic materials outside of the Landfill is such waste constituents could migrate to waters of the State in either liquid of gaseous phase and cause a condition of pollution or nuisance.

7. With written approval of the Executive Officer, Water (including non-hazardous and non-designated leachate and gas condensate) used during disposal site operations shall be limited to the minimal amount necessary for dust control, construction (soil compaction), and vegetation establishment/irrigation purposes. Water, leachate and condensate, used at the Landfill, shall not be applied over areas underlain by waste, except for lined portions, and shall not infiltrate into areas containing wastes.

8. Disposal site operations shall not be a source of odor nuisance.

9. The discharger shall prevent formation of a habitat for carriers of pathogenic microorganisms.

10. The handling and disposal of asbestos containing wastes shall be in accordance with all applicable federal, state, and local statutes and regulations.

11. Ash wastes may be discharged in the Landfill only when chemical analyses demonstrate to the Executive Officer's satisfaction that the waste is non-hazardous.[a]

12. Wastes discharged in violation of these requirements and after the adoption date of this Order, shall be removed and relocated.

13. All refuse material that is wind-blown outside the active Landfill area shall be collected regularly and disposed in the Landfill. If wind-blown litter becomes a continuing problem, a containment barrier (additional screens and/or fences) shall be constructed to prevent spreading of refuse.

14. The Discharger shall obtain and maintain a Regional Water Quality Control Board approved Financial Assurance Instrument (Instrument) to demonstrate financial responsibility for initiating and completing corrective action of all known or reasonably foreseeable releases from the Landfill until the end of the Post-Closure Maintenance Period, pursuant to Chapter 15 regulations. The Instrument shall be legally valid, binding and enforceable under State and Federal law.[a]

15. A program for periodic intake load-checking shall be maintained to ensure that 'hazardous waste,' 'designated waste' and 'radioactive waste' are not discharged at this Landfill.[a]

16. The Discharger shall operate the Landfill in conformance with the most recently Executive Officer approved Master Plan, Operations Plan, and/or Site Development Plan, except where the Plan(s) conflict with this Order. In the event of conflict, this Order shall govern in cases where it is most restrictive. Any changes to the Plan(s) that may affect compliance with this Order must be approved in writing by the Executive Officer.[a,d]

17. Discharge of dewatered sewage sludge or water treatment sludge to the Landfill shall meet all of the following criteria:

    a. dewatered domestic sludge which is utilized beneficially as soil amendment to promote vegetation over intermediate or final cover may be allowed with written Executive Officer approval.

    b. Sludge discharged into the Landfill shall be only to Units equipped with a dendritic/blanket-type leachate collection and removal system (LCRS) or acceptable equivalent immediately above the liner. However, if the sludge contains greater than 50% solid by weight, an LCRS may not be required depending on site specific conditions and upon Executive Officer approval.[a]

    c. A daily minimum solid waste-to-sludge ratio of 5 to 1 by weight shall be maintained to ensure co-disposal will not exceed the moisture-holding capacity of the nonhazardous solid waste.[a] The actual ratio required by the Regional Board shall be based on site-specific conditions.

    d. Primary and mixtures of primary and secondary sludge shall contain at least 20 percent solids by weight.[a]

    e. Secondary sewage sludge or water treatment sludge shall contain at least 15 percent solids by weight.[a]

18. Waste shall not be discharged to a wetland, as defined in 40 CFR Section 232.2(r), or to any portion thereof, unless the Discharger successfully completes all demonstrations pursuant to 40 CFR Section 258.12(a). Such demonstration is subject to approval of the Executive Officer.[c]

19. Refuse shall be covered daily by at least six inches of cover material or, if allowed by the Local Enforcement Agency, meet Performance Standards of the California Code of Regulations, Title 14, Section 17683. Cover shall promote lateral runoff of rainfall away from the active disposal area. Upon Executive Officer approval, alternative daily cover materials may be utilized. Long-term alternatives to the daily cover requirements must satisfy the alternative daily cover Procedures and be approved by the California Integrated Waste Management Board.[a]

20. Condensate or leachate collected from a Waste Management Unit may be discharged to that Waste Management Unit if the following conditions are met[d]:

    a. the Landfill condensate or leachate shall be returned to the appropriately lined portion of the Landfill that produced it. The containment system must meet the performance standard of Discharge Specification B.35. of this Order.

    b. condensate or leachate shall have no chemical additives which could adversely affect containment features, and shall consist only of water and liquid contaminants removed from the gas recovered at a Waste Management Unit,

    c. condensate or leachate shall be non-hazardous, and

    d. condensate or leachate is discharged only in compliance with this Order.

Wet Weather

21. By **October 1 of each year**, all necessary runoff diversion and erosion prevention measures shall be implemented. All necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the Landfill and to prevent surface drainage from contacting or percolating through wastes.[a]

22. All landfill surfaces and working faces shall be graded and operated to minimize rainfall infiltration into wastes, to prevent ponding of water, and to resist erosion. Positive drainage to divert rainfall runoff from areas containing waste shall be provided.

23. Drainage ditches crossing over landfill areas shall be lined with material which provides an effective field permeability of 1.0×10^{-6} cm/sec or less. If material other than clay or synthetic is used, data must be provided to, and approved by, the Executive Officer. The drainage facilities shall be designed and constructed to accommodate anticipated precipitation and peak surface runoff flows from a 100-year, 24-hour event.

24. Water collected in any storm water catchment basin or a site water treatment facility may be used in minimum amounts necessary for dust-control, compaction, or irrigation of cover vegetation provided none of the water infiltrates past the root zones of vegetation or past a depth where effective evaporation can occur.

25. Waste containment barriers shall be maintained to ensure effectiveness.[a]

26. The Discharger shall monitor potential releases from the site related to surface water runoff by complying with all NPDES Stormwater Monitoring Program requirements.

27. Storage facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm, or otherwise managed, to maintain the design capacity of the system.[a]

28. If adequate soil cover material is not accessible during inclement weather, such material shall be stockpiled during favorable weather to ensure year-round compliance.[a]

29. Throughout the rainy season of each year, a minimum one (1) foot thick compacted soil cover designed and constructed to minimize percolation of precipitation through wastes, shall be maintained over the entire landfill. The soil cover shall be in-place by **October 1 of each year**. The only exception to this specification is the working face. The working face shall be confined to the smallest area practicable based on the anticipated quantity of waste discharged and required waste management facility operations. Landfill areas which have been provided an Executive Officer approved vegetative layer as of the adoption date of this Order, shall not be required to satisfy this requirement. Based on site specific conditions, the Executive Officer may require a thicker soil cover for any portion of the landfill prior to the rainy season.

30. By **October 1 of each year**, vegetation, to prevent erosion, shall be planted and maintained over all Landfill slopes except the active face. Vegetation shall be selected to require a minimum of irrigation and maintenance and shall have a rooting depth not in excess of the vegetative layer thickness. Upon Executive Officer approval, non-hazardous sludge may be conditionally utilized as a soil amendment to promote vegetation. Upon written Executive Officer approval, non-hazardous sludge may be conditionally utilized as a soil amendment to promote vegetation. Soil amendments and fertilizers (including wastewater sludge) used to establish vegetation shall not exceed the vegetation's agronomic rates (i.e., annual nutrient needs), unless approved by the Executive Officer.

Design Criteria

31. Waste management units, containment structures, and drainage facilities shall be designed, constructed and maintained to limit, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, washout, overtopping, and damage due to natural disasters (e.g., floods with a predicted frequency of once in 100 years, the maximum probable earthquake, and severe wind storms).[a]

32. Waste management units, containment structures and drainage facilities shall be designed and constructed under the direct supervision of a California registered civil engineer or a certified engineering geologist, and shall be certified by that individual as meeting the prescriptive standards and performance goals of all state and federal landfill regulations including, but not limited to Chapter 15, Title 14 (of the CCR) and 40 CFR Parts 257 and 258, prior to waste discharge.[a,c]

33. All Landfill facilities shall be designed and constructed to minimize damage during the "maximum probable earthquake" to the graded foundation and to structures which control leachate, surface drainage, erosion, and gas. The operator must demonstrate that all containment structures, including liners, leachate collection and removal systems, and surface water control systems are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the Executive Officer that it has been placed in the operating record.

34. The Discharger shall ensure the integrity of the final slopes under both static and dynamic conditions considering seismic acceleration at least from the maximum probable earthquake. The slope of those portions of the fill which will be the final exterior surface shall be developed in accordance with California Code of Regulations, Title 23, Division 3, Chapter 15, Subsection 2581. Slopes with grades less than 3% require the approval of the Executive Officer.[a]

35. Wastes shall not be discharged to areas outside the footprint area which had not received waste as of October 9, 1993, unless the discharge is to an area equipped with a containment system, which meets either a. or b. below:

    a. A composite liner and a leachate collection and removal system. The liner must consist of two components[c]:

        i. **Lower Component**: A minimum two-foot layer of compacted soil with a hydraulic conductivity of no more than $1X10^{-7}$ cm/sec (0.1 feet/year); and

        ii. **Upper Component**: A minimum 40-mil flexible membrane liner (FML) or a minimum 60-mil high density polyethylene (HDPE). The upper component must be installed in direct and uniform contact with the lower component; or

    b. An engineered alternative design. Engineered alternative designs must satisfy the performance criteria in 40 CFR, Section 258.40(a)(1) and (c), and satisfy the criteria for an engineered alternative to the above Prescriptive Design, as provided by Title 23, CCR, Section 2510 (b), where the performance of the alternative composite liners' components, in combination, equal or exceed the waste containment capability of the Prescriptive Design.[c]

36. Permeability determinations shall be as specified in Article 4 of Chapter 15. Permeabilities specified for containment structures other than cover shall be relative to the fluids, including waste and leachate, to be contained. Permeabilities specified for cover shall be relative to water. Permeabilities shall be determined primarily by appropriate field test methods in accordance with civil engineering practice (sealed double ring infiltrometer test is required). The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. Appropriate compaction tests may be used in conjunction with laboratory permeability tests to determine field permeabilities as long as a reasonable number of field permeability tests are also conducted.[a]

37. Leachate collection and removal systems shall be installed immediately above the liner and shall be designed, constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the Unit.[a]

38. The leachate collection and removal system shall:

    a. be designed and constructed to prevent the development of greater than one foot of hydraulic head on the liner; and

    b. convey to a sump, or other appropriate collection area, all leachate which reaches the liner. The depth of fluid in any collection sump shall be kept at the minimum needed to ensure efficient pump operation.[a]

Closure

39. Final Landfill configuration shall conform to the contours delineated in the most recent version of the site design plan.

40. Areas at final elevations shall be covered with final cover pursuant to Section 2581 of Chapter 15 including from bottom to top:[a,c]

    a. at least a two foot foundation layer placed over waste;

    b. (1) for landfills which have <u>not</u> been equipped with a Subtitle D composite liner system, a low permeability geomembrane or compacted clay with an in-place permeability no faster than 1×10^{-6} cm/sec, or no faster than the permeability of underlying natural geologic materials, which ever is less, or

    (2) for landfills which have been equipped with a Subtitle D composite liner system, a low permeability geomembrane and compacted clay with an in-place permeability no faster than 1×10^{-7} cm/sec, or no faster than the permeability of the underlying Subtitle D composite liner system; and

    c. at least one foot of soil capable of supporting vegetation, resisting erosion, and protecting the underlying low permeability layer.

Hydraulic conductivity of a low-permeability soil layer shall be determined by both laboratory and in-place field testing. Permeability determinations for cover materials shall be as specified in Article 4 of Chapter 15 and shall be appended to the final closure and post-closure maintenance plan. Construction methods and quality assurance procedures shall be submitted to the Executive Officer, and shall insure all parts of the low-permeability layer meet the hydraulic conductivity and compaction requirements. The final cover shall be graded to a slope of at least 3%, but not more than 10% unless adequate erosion control measures are implemented and approved by the Executive Officer.

41. All landfill areas which have not reached final fill elevation, but will remain inactive over one-year, must be provided with an Executive Officer approved long-term intermediate cover. The thickness and permeability of the long-term intermediate cover shall be based primarily on site specific conditions including, but not limited to length of exposure time; volume of underlying material, permeability, thickness and composition of existing cover; amount of yearly rainfall; depth to ground water; beneficial uses of underlying ground water; site specific geologic and hydrogeologic conditions; and effectiveness of existing monitoring system.

42. The Discharger shall implement final closure activities as the site operation progresses (e.g., within 30 days after a particular Unit or portion of a Unit reaches final fill elevation, closure activities shall begin), in accordance with the most recently approved closure plan. Units closed in accordance with a Closure Plan approved by the Executive Officer are not subject to future regulatory changes, unless monitoring data indicate impairment of beneficial uses of ground water.[a]

43. All closed landfill WMUs shall be provided with at least two permanent monuments, installed by a licensed land surveyor, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period. Cumulative waste subsidence and settlement of areas where final cover is installed, shall be documented in the annual report.[a]

44. Alternative intermediate and final cover designs may be considered for Executive Officer approval, if such designs provide equivalent reduction in infiltration and protection from wind and water erosion.[a]

45. Methane and other landfill gases shall be adequately vented, removed from the Landfill, or otherwise controlled to prevent nuisance conditions or the impairment of beneficial uses of water due to migration through the vadose (unsaturated) zone.[a]

Reporting

46. Discharger shall notify Board staff, within 24 hours by telephone and within seven days in writing, of any noncompliance potentially or actually endangering health or the environment. Any noncompliance which threatens the landfill's containment integrity shall be promptly corrected. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten the environment and/or the Landfill's integrity (i.e., emergency corrective measures). Corrections initiated prior to Executive Officer approval shall be so stated in the written report. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times or anticipated duration; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. This provision includes, but is not limited to:

    a. violation of a discharge prohibition;

    b. violation of any treatment system's discharge limitation;

    c. slope failure; and

    d. leachate seep occurring on, or in proximity to, the Landfill.[a]

    For further reporting guidance refer to the current Monitoring and Reporting Program.

47. Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule, shall be submitted within 14 days following each scheduled date unless otherwise specified within the Order. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of achieving full compliance.

48. Reports shall be submitted in advance of any planned changes in the permitted facility or in an activity which could potentially or actually result in noncompliance.

C. WATER QUALITY PROTECTION STANDARDS

1. Water Quality Protection Standard (WQPS or Standard). The five parts of the Water Quality Protection Standard (Standard) are as follows:

    a. Constituents of Concern. The list of Constituents of Concern for water-bearing media (ground water, surface water, and soil pore liquid) include those described in Part I.C.4. of the attached Monitoring and Reporting Program (MRP) 94-29.

b. Concentration Limits. For each Monitoring Point assigned to the Detection Monitoring Program, the Concentration Limit for each Constituent of Concern (or Monitoring Parameter) shall be its background value as obtained during that Reporting Period as described in Part II.B. of the attached MRP No.94-29.

c. Monitoring Points and Background Monitoring Points for Detection Monitoring shall be those listed in Part I.C.1. of the attached Monitoring and Reporting Program and shown on **Attachment B**.

d. Point of Compliance. The Point of Compliance is the edge of the Landfill's Designated Disposal Areas and Completed Disposal Areas, shown on **Attachment B**, and extends vertically down through the uppermost aquifer.

e. Compliance Period. The Compliance Period is the minimum period of time during which the Discharger shall conduct a water quality monitoring program subsequent to a release. The Compliance Period equals the number active fill years of the waste management unit (including any waste management unit activity prior to the adoption of the waste discharge requirements) plus the closure period. The estimated duration of the Compliance Period for this Unit is 50 years. Each time the Standard is broken (i.e., a release is discovered), the Unit begins a Compliance Period on the date the Board directs the Discharger to begin an Evaluation Monitoring Program. If the Discharger's Corrective Action Program has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the Unit has been in continuous compliance for at least three consecutive years.

2. Monitoring Parameters for Detection Monitoring

The Monitoring Parameters for water bearing media are those listed in Part I.C.2. of MRP 94-29.

3. Additional Requirements

a. The concentrations of indicator parameters or waste constituents in water passing through the Points of Compliance shall not exceed the "water quality protection standard(s)" established pursuant to Monitoring and Reporting Program No.94-29, which is attached and made part of this Order.

b. Discharge of waste shall not cause a "statistically significant" increase over background for any of the constituents of concern or monitoring parameters assigned in Monitoring and Reporting Program 94-29.

c. Discharge of waste shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board.

d. Discharge of waste shall not cause concentrations of chemicals and radionuclides in underlying and downgradient groundwater to exceed limits set forth in Title 22, Chapter 15, Articles 4 and 5 of the code.

e. Discharge of waste shall not adversely impact the quality of water in any aquifer.

f. Discharge of waste shall not cause ground water in downgradient wells to exceed the State Department of Health Services latest recommended Drinking Water Action Levels or Maximum Contaminant Levels.

D. PROVISIONS

General Provisions

1. Order No. 90-05 "Waste Discharge Requirements for County of Santa Cruz Buena Vista Class III Landfill" adopted by the Board on January 12, 1990, is hereby rescinded.

2. The Discharger shall comply with "Monitoring and Reporting Program No. 94-29", as specified by the Executive Officer.

3. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to regulatory agency personnel and to facility operating personnel, who shall be familiar with its contents.

4. The Discharger shall comply with all other applicable provisions of Chapter 15 and Subtitle D that are not specifically referred to in this Order. If any applicable regulation requirements overlap or conflict in any manner, the most restrictive requirement shall govern in all cases, unless specifically stated otherwise in this Order, or as directed by the Executive Officer.

5. The Discharger shall maintain legible records of the volume and type of each waste discharged at each Unit and the manner and location of discharge. Such records shall be maintained at the facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the Board and of the State Water Resources Control Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.[a]

6. The Discharger shall be responsible for accurate waste characterization, including determinations of whether or not wastes will be compatible with containment features or other wastes and whether or not wastes are required to be managed as hazardous wastes.[a]

7. Hazardous waste warning signs that adequately inform and warn users of hazardous waste restrictions shall be posted on a legible roadway sign at the entrance in both English and Spanish. The sign shall also list penalties for illegal dumping. A specific list of Hazardous Wastes and other types of materials prohibited at this landfill shall be provided to commercial waste haulers that use this Landfill and shall be available to all other site users upon request.

8. The Regional Board considers the property owner and Discharger to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge.

9. The landowner and the Discharger shall have a continuing responsibility to assure protection of usable waters, from discharged wastes and from gases and leachate generated by discharged waste, during the Landfills active life, closure, and post-closure maintenance periods and during subsequent use of the property for other purposes.

10. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the State Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with Monitoring and Reporting Program No. 94-29, as required by Sections 13750 through 13755 of the California Water Code.[d]

11. The Discharger shall notify the Board in writing of any proposed change in ownership or responsibility for construction or operation of the facility. This notification shall be given at least 90 days prior to the effective date of the change and shall be accompanied by an amended Report of Waste Discharge and any technical documents that are needed to demonstrate continued compliance with these WDRs. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator, in writing, of the existence of this Order. A copy of that notification shall be sent to the Board. Notification to the Board shall also comply with Section 2590(c) of Chapter 15.[a]

12. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain

the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Board, and a statement indicating that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a violation of Section 13264 of the Water Code (discharge without waste discharge requirements). Transfer may be approved or disapproved in writing by the Executive Officer.[d]

13. Within 60 days after completing final closure of all MSW landfill Units,

    a. the owner or operator must record a notation on the deed to the Landfill facility property, or some other instrument that is normally examined during title search, and notify the Executive Officer that the notation has been recorded and a copy has been placed in the operating record.

    b. the notation on the deed must, in perpetuity, notify any potential purchaser of the property that:

        i. the land has been used as a landfill facility; and

        ii. its use is restricted pursuant to Subtitle D, section 258.61(c)(3).

        iii. pursuant to Chapter 15, should the Discharger default in post-closure care, liability shifts to the new owner/operator.[a,c]

14. The Discharger shall submit to the Regional Board for approval an updated closure and post-closure maintenance plan (Closure Plan) whenever substantial changes occur or five years has elapsed since the last major revision. The Closure Plan shall include:

    a. a description of the final cover, designed in accordance with all applicable State and Federal regulations and the methods and procedures to be used to install the cover;

    b. an estimate of the largest area of the landfill Unit ever requiring a final cover at any time during the active life;

    c. an estimate of the maximum inventory of wastes ever on-site over the active life of the landfill facility; and

    d. a schedule for completing all activities necessary to satisfy all closure criteria as required by Chapter 15 and Subtitle D regulations.

    The method, identified for each Units' closure and protection of the quality of surface and ground waters, shall comply with waste discharge requirements established by the Regional Board. The Closure Plan report shall be consistent with all applicable State and Federal regulations, including Chapter 15 and Subtitle D. The Closure Plan shall be prepared by or under the supervision of a California registered civil engineer or certified engineering geologist.[a,c]

15. The Discharger shall notify the Board at least 180 days prior to beginning any partial or final landfill closure activities. The notice shall include a statement that all closure activities will conform to the most recently approved Closure Plan and that the Plan provides for closure in compliance with all applicable state and federal regulations. If there is no approved Closure Plan, the Discharger must submit a complete Closure Plan at least 240 days prior to beginning any Landfill closure activities.[a]

16. The Executive Officer may require partial and/or final closure of any waste management unit, regardless of whether the unit has reached final capacity laterally and/or vertically, for the protection of water quality.[a]

17. The Discharger shall report all changes in usage of daily cover and performance standards within 10 days following the change.

18. The Discharger shall maintain waste containment facilities and precipitation and drainage controls, and shall continue to monitor, as appropriate, ground water, leachate from the Unit, the vadose zone, and surface waters per the current version of the Monitoring Program throughout the post-closure maintenance period.[a]

19. The post-closure maintenance period shall continue until the Board determines that remaining wastes in the Landfill will not threaten water quality.[a]

20. Discharger shall notify the Board within 24 hours by telephone and within seven days in writing of any flooding, equipment failure, slope failure, or other change in site conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

21. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Regional Board Executive Officer, proposing appropriate modifications to the Monitoring and Reporting Program. The request may address changes;

    a. to any statistical method, non-statistical method, or retest method used with a given constituent or parameter,

    b. to the manner of determining the background value for a constituent or parameter,

    c. to the method for displaying annual data plots,

    d. to the laboratory analytical method used to test for a given constituent or parameter.

    e. to the media being monitored (e.g., the addition of soil pore gas to the media being monitored),

    f. to the number or placement of Monitoring Points or Background Monitoring Points for a given monitored medium, or

    g. to any aspect of monitoring or QA/QC.

    After receiving and analyzing such a report, the Executive officer either shall reject the proposal for reasons listed, or shall incorporate it, along with any necessary changes, into the attached Monitoring and Reporting Program. The Discharger shall implement any changes in the Monitoring and Reporting Program proposed by the Regional Board Executive Officer upon receipt of a revised Monitoring and Reporting Program.

22. The Discharger shall submit a complete liner system design report for Executive Officer consideration of any new landfill use and construction, at least 180 days prior to landfill development. The design report shall adequately address any proposed deviation from the most currently approved fill sequencing plan. It must adequately address all applicable requirements of Chapter 15 and federal (Subtitle D) landfill regulations.[a]

23. Vertical expansions (i.e., additional refuse placement on top of existing unlined waste management units already containing refuse) above currently permitted final fill elevations, as indicated in the most recently approved operations/master plan or Waste Discharge Requirements, will not be permitted, unless The Discharger submits and the Executive Officer approves, a proposal demonstrating that additional refuse placed on top of existing unlined Waste Management Units does not significantly increase the threat to water quality. The proposal shall adequately address:

    a. all siting criteria and engineering properties of underlying refuse,

    b. differential settlement, including the ability of the underlying waste to support the additional refuse and all effects of the additional refuse upon the underlying refuse.

    All proposal conclusions shall consider site specific conditions, including subsurface hydrogeologic factors, existing threat to water quality, any existing State Water's degradation as a result of landfill waste discharges, beneficial uses of underlying and adjacent waters, size of the existing landfill, remaining

capacity, existing and proposed final fill elevations, financial feasibility, and any other relevant factors.

24. Pursuant to the California Code of Regulations, Title 23, Chapter 15, Article 9, the Discharger must submit a technical report to the Executive Officer not later than **October 8, 1998** which:

    a. discusses whether there has been or will be changes in the continuity, character, location, or volume of the discharge;

    b. discusses any proposed expansions (lateral and/or vertical expansions within and/or outside currently permitted landfill boundaries) or closure plans, including detailed information of the quality and quantity of waste discharged and the anticipated impact upon water quality and Landfill operations;

    c. discusses whether, in their opinion, there is any portion of the Order that is incorrect, obsolete, or otherwise in need of revision;

    d. addresses all other applicable sections of Article 9, Chapter 15 (e.g., update of the Landfill's Development and Operations Plan, etc.,); and

    e. includes any other technical documents needed to demonstrate continued compliance with this Order and all pertinent state and federal requirements.[a]

25. Prior to **October 8,** of every year, the Discharger shall submit a report addressing compliance with all terms of this Order.

26. Except for data determined to be confidential under Section 13267 (b) of the California Water Code, all reports prepared in accordance with this Order shall be available for public inspection at the office of the Regional Board.[d]

27. All reports shall be signed as follows:

    a. for a corporation; by a principal executive officer of at least the level of vice president;

    b. For a partnership or sole proprietorship; by a general partner or the proprietor, respectively;

    c. For a public agency; by either a principal executive officer or ranking elected official; or,

    d. Their "duly authorized representative."

    e. Engineering reports; by a California Registered Civil Engineer or Certified Engineering Geologist.

28. Any person signing a report makes the following certification, whether its expressed or implied:

    "I certify under penalty of perjury I have personally examined and am familiar with the information submitted in this document and all attachments and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

29. The Board will review this Order periodically and may revise these requirements when necessary.

30. The Discharger shall submit any updated/revised versions of a Master Operations Plan for review by Board staff.

31. The Discharger shall develop a long-term intermediate cover design for all Landfill areas which have not reached final fill elevation, but will remain inactive for over one year. Cover designs shall minimize percolation from precipitation and surface water flows. The proposed design shall be submitted by **October 8, 1994** for Executive Officer approval. Executive Officer approval of the design will be based on site specific factors as described in Discharge Specification B.41.

32. The Discharger shall submit a 'Wet Weather Preparedness Report' by **November 1 of each year.** The report must address, in detail, compliance with all wet weather preparedness related specifications (e.g., Discharge Specifications B.21, B.22, B.23, B.24, B.30, and B.29) of this Order, and all other relevant Chapter 15 and Subtitle D criteria.

33. If the Discharger or the Regional Board determines, pursuant to Section 2550.8(g) or (i), that there is evidence of a new release from any portion of the Landfill, the Discharger shall immediately implement the procedures outlined in the most current version of their Monitoring and Reporting Program.

34. The County of Santa Cruz, by adoption of a Resolution shall enact a Financial Assurance Instrument (Instrument) in the amount of Seven Hundred and Fifty Thousand Dollars ($750,000.00) to cover the estimated Article 5 costs to initiate and complete corrective action of the "worse case" reasonably foreseeable release. The Discharger shall submit a report every five years that either validates the Instrument's ongoing viability or proposes and substantiates any needed changes.[a,c] The report is due **October 8, 1994** and every five years thereafter.

35. By **October 8, 1994,** the Discharger shall submit a signed original Financial Assurance Instrument for corrective actions as outlined in Provision D.34, for Executive Officer review and approval.

36. Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of section 13267 of the California Water Code, or falsifying any information provided therein, is guilty of a misdemeanor.

37. The Discharger and/or any person who violates waste discharge requirement and/or who intentionally or negligently discharges waste, causes or permits waste to be deposited where it is discharged to waters of the state, may be liable for civil and/or criminal remedies, as appropriate, pursuant to the California Water Code.[d]

38. The Discharger shall comply with the following submittal and implementation schedule for all tasks and/or reports required by this order:

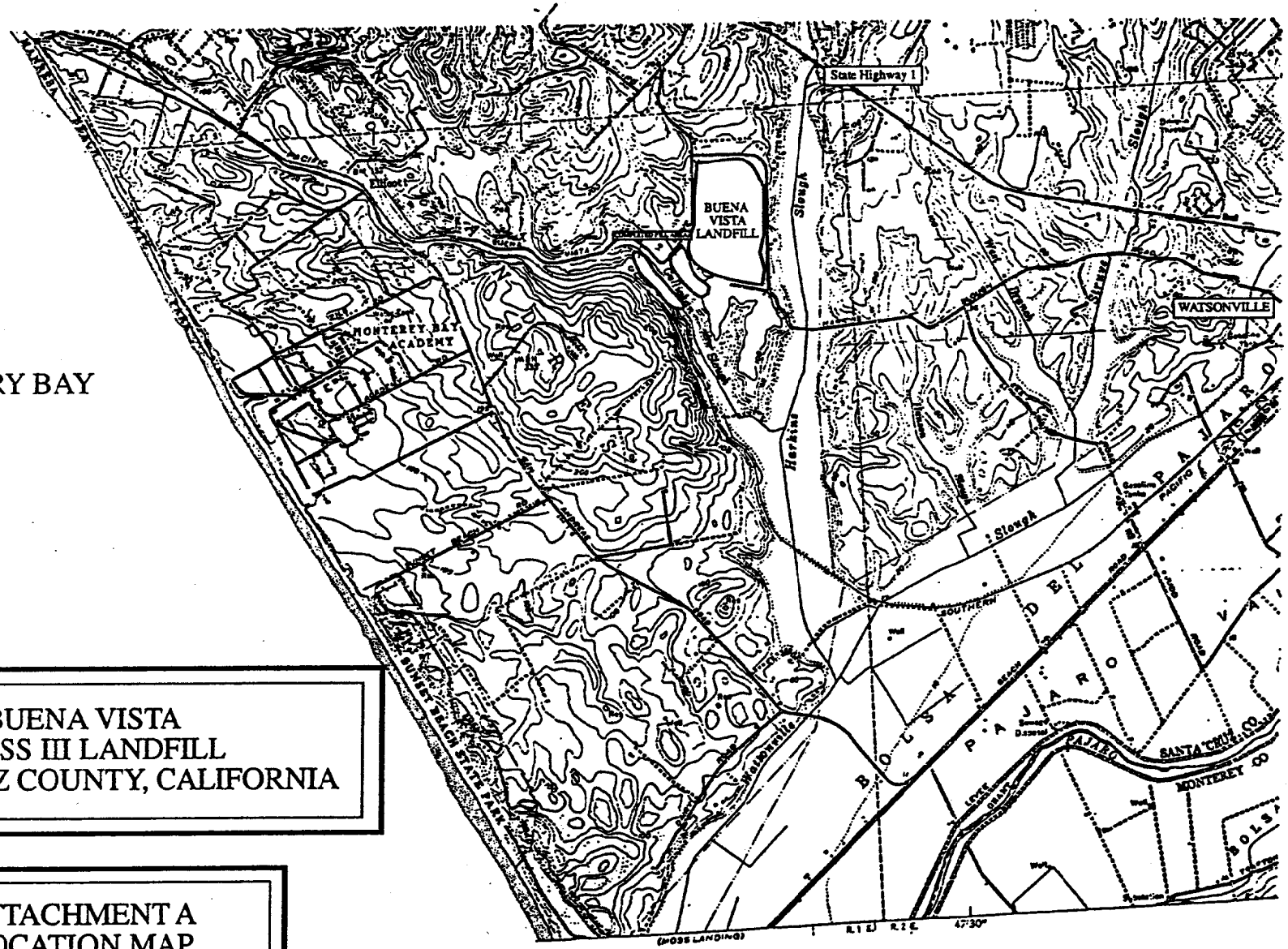
REPORT AND IMPLEMENTATION DATE SUMMARY

TASK	IMPLEMENTATION DATE
Runoff diversion and erosion prevention (Specification No. 21)	October 1, of each year
Minimum One foot cover over entire active WMU (Specification No. 29)	October 1, of each year
Vegetation placement over entire Landfill area (Specification No. 30)	October 1, of each year
REPORT	DUE DATE
Wet Weather Preparedness Report (Provision No. 32)	November 1, of each year
Technical Compliance Report (Provision No. 25)	October 8, of each year
Financial Assurance Agreement Documents (Provision No. 34)	October 8, 1994
Long-Term Intermediate Cover Design Report (Provision No. 31)	October 8, 1994
Report of Waste Discharge (Provision No. 24)	October 8, 1994
Financial Assurance Report (Provision No. 35)	October 8, 1994

I, ROGER W. BRIGGS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Coast Region, on April 8, 1994.

Executive Officer

MSL/94-29.WDR

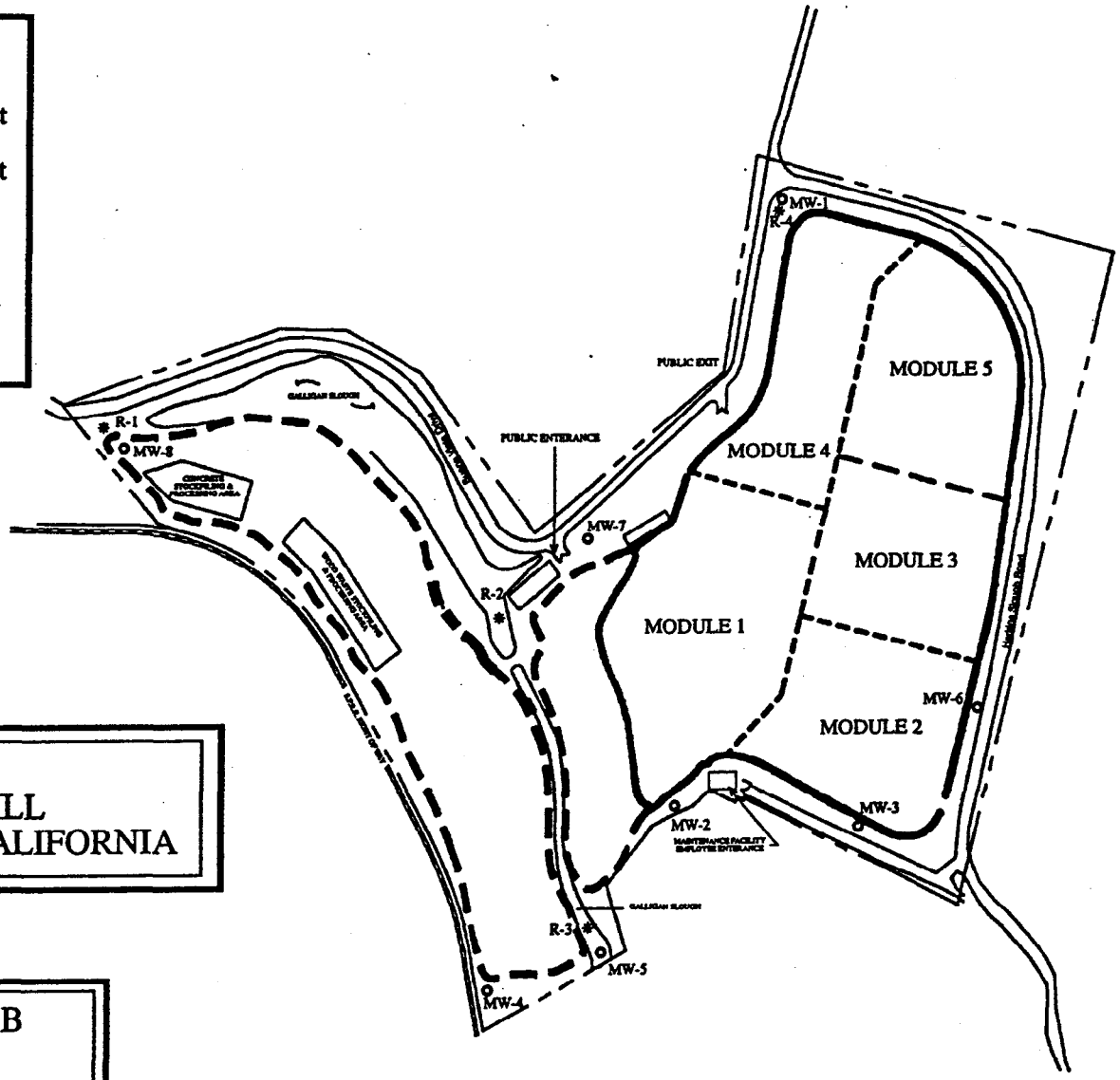


BUENA VISTA
CLASS III LANDFILL
SANTA CRUZ COUNTY, CALIFORNIA

ATTACHMENT A
LOCATION MAP

LEGEND

- * Surface Water Monitoring Point
- o Ground Water Monitoring Point
- Property Boundary
- Designated Disposal Area
- Completed Disposal Area



BUENA VISTA
CLASS III LANDFILL
SANTA CRUZ COUNTY, CALIFORNIA

ATTACHMENT B
SITE MAP

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

81 Higuera Street, Suite 200
San Luis Obispo, California 93401-5427

MONITORING AND REPORTING PROGRAM NO. 94-29

FOR
BUENA VISTA
CLASS III LANDFILL
SANTA CRUZ COUNTY

PART I: MONITORING AND OBSERVATION SCHEDULE

A. INTAKE MONITORING

The Discharger shall maintain daily records of the waste stream. The record shall include the following:

1. weight and volume of waste received;
2. running totals of volume received, volume remaining for waste placement and site life expectancy;
3. current fill area;
4. waste type and diversion quantities; and
5. log of random load checking program.

B. LEACHATE AND DRAINAGE SYSTEMS INSPECTIONS

1. The Discharger shall inspect all leachate systems and record the following information:
   a. weekly; leachate containment system integrity, record volume of leachate collected and disposal method used;
   b. quarterly; pumping system operational check;
   c. annually; leachate system testing as required by §2543(d) of Article 5, reporting the results as part of the Annual Summary Report required by Part IV.B. of this Program.
2. The Discharger shall inspect all drainage control systems following each storm and record the following information:
   a. whether storm storage ponds and drainage ditches contain liquids;
   b. any apparent seepage from the basins;
   c. general conditions of facilities and liners; and
   d. steps taken to correct any problems found during inspection and when taken.

C. WATER MONITORING

The Discharger shall monitor water bearing media in accordance with the following schedule. Sampling, analyses, and reporting shall follow the procedures in Parts II, III, and IV of this Program. The Discharger shall insure enough samples are taken, at each monitoring point, to qualify for the most appropriate analysis method outlined under Part III of this Program.

1. Monitoring Points and Background Monitoring Points

The Discharger shall sample the following Monitoring Points and Background Monitoring Points (depicted in Attachment B to Waste Discharge Order 94-29) in accordance with the sampling schedule:

a. For ground water in the Aromas Aquifer the Monitoring Points shall be wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, and MW-8; MW-1 and MW-8 are used when up gradient comparisons are necessary;

b. For surface waters the Monitoring Points shall be R-1, R-2, R-3, and R-4. R-1 and R-4 are used when up gradient comparisons are necessary;

2. Detection Monitoring/Monitoring Parameters

Beginning on the date that this Monitoring and Reporting Program (Program) is adopted, Detection monitoring for each monitored medium at all Monitoring Points assigned to this program shall be carried out quarterly. Reporting will be semi-annually, once each Winter/Spring and Summer/Fall (Winter/Spring and Summer/Fall Reporting Periods end on June 30 and December 31, respectively) for the Monitoring Parameters listed below.

a. Monitoring Parameters that use statistical methods:

total dissolved solids (TDS), chloride, nitrate nitrogen, pH, electrical conductivity (EC), chemical oxygen demand (COD), sulfate, manganese, sodium, and each VOC that exceeds its respective (facility-specific) MDL in at least ten percent of the background samples from a given water body during the Monitoring Period. These Monitoring Parameters are subjected to the most appropriate statistical analysis test pursuant to Part III.A.1. of this Monitoring and Reporting Program (Program); and

b. Monitoring Parameter that uses non-statistical method:

VOC_{water}, a composite parameter that encompasses a variety of VOCs. The constituents addressed by the VOC_{water} Composite Monitoring Parameter include all VOCs detectable using USEPA Method 8260, including at least all 47 VOCs listed in Appendix I to 40 CFR 258 (included as Attachment 1 to this program), and all unidentified peaks. The VOC_{water} composite shall be analyzed using the non-statistical analysis method described in Part III.6. of this Program.

3. Ground Water Flow Rate and Direction

For each monitored ground water body, the discharger shall measure the water level in each well and determine ground water flow rate and direction at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. Ground water elevations for all wells in a given ground water body shall be measured within a period of time short enough to avoid temporal variations in ground water flow which could preclude accurate determination of ground water flow rate and direction [40 CFR §258.53(d)]. This information shall be included in the twice-yearly monitoring reports required under C.2 of this part.

4. Constituents of Concern

In the absence of a release being indicated the Discharger shall sample all Monitoring Points and Background Monitoring Points of water-bearing media for all Constituents of Concern every fifth year, beginning with the year of adoption of this Program and, with successive monitoring efforts being carried out alternately in the Spring of one year (Reporting Period ends March 31) and the Fall of the fifth year thereafter (Reporting Period ends September 30). Monitoring for Constituents of Concern (COC) shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

The discharger shall develop and maintain the Constituent of Concern list(under 23 CCR §2550.3, "COC list") as follows:

a. Building and augmenting the Constituent of Concern (COC) list:

The COC list will include:

i. All waste constituents listed in the waste discharge requirements as of the effective date of this Order; and

ii. Each constituent listed in Appendix II to 40 CFR Part 258 (Appendix II constituent) that:

a. is not already a COC for the landfill, and;

b. is detected in a sample of the landfill's leachate which the discharger shall collect during October of each year.

The discharger shall report to the Regional Water Board by no later than January 31 of a given year the analytical results of the leachate sample taken the previous October, including an identification of all detected Appendix II constituents that are not on the landfill's Constituent of Concern list; and

c. is also detected in a retest leachate sample collected the following April.

The discharger need take and analyze this retest sample only in cases where the annual leachate sample, taken the previous October identifies constituents which were not previously listed as COCs. The retest sample shall be analyzed only for the non-COCs detected in the October sample. During any year in which an April leachate retest is carried out, the discharger shall submit a report to the Regional Water Board, by no later than August 1 of that year, identifying all constituents which must be added to the landfill's COC list as a result of having been detected in both the (previous calendar year's) October sample and in the April retest sample;

b. For each Appendix II constituent that is newly added to the landfill's COC list, the discharger shall establish a reference background value in each monitored medium in accordance with Part II.C. of this Program.

5. Thirty-Day Sample Procurement Limitation

For any given monitored medium, the samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given Monitoring Period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible [§2550.7(e)(12)(B) of Article 5].

PART II: SAMPLE COLLECTION AND ANALYSIS

A. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA Methods (USEPA publication "SW-846"), and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the Discharger is responsible for seeing that the

laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

1. The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace") in data from Background Monitoring Points for that medium, the analytical method having the lowest "facility-specific method detection limit (MDL)" (defined in Part V of this Program) shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" (defined in Part V of this Program) involved.

2. "Trace" results (results falling between the MDL and the practical quantitation limit (PQL)) shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run.

3. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.

4. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, an explanation for any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.

5. Upon receiving written approval from the Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Monitoring Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

6. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

7. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

8. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

B. CONCENTRATION LIMITS

The concentration limit for any given Constituent of Concern or Monitoring Parameter in a given monitored medium (e.g., the uppermost aquifer) at an Municipal Solid Waste (MSW) landfill shall be the constituent's background value. Concentration limits are either:

1. a tolerance interval for each parameter in each well, established in accordance with Proposed Monitoring Program Buena Vista Drive Landfill, dated July, 1992 and approved by the Executive Officer; or

2. the constituent's Method Detection Limit (MDL), in cases where less than 10% of the samples exceed the constituent's MDL.

C. INITIAL BACKGROUND DETERMINATION

For the purpose of establishing an initial pool of background data (tolerance interval) for each Constituent of Concern at each Monitoring Point in each monitored medium [§2550.7(e)(6) of Article 5]:

1. whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Order, the Discharger shall collect at least one sample quarterly for at least one year from each Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

2. whenever a new Monitoring Point is added, including any added by this Order, the Discharger shall sample it at least quarterly for at least one year, analyzing for all Constituents of Concern and Monitoring Parameters.

Once this reference set of background data (tolerance intervals) is collected, the Discharger shall include it as a separate, identified item in the next monitoring report submittal. Changes to established tolerance intervals must be approved by the Executive Officer.

D. RECORDS TO BE MAINTAINED

Written records shall be maintained by the Discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Board. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date and time of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

5. Calculation of results; and

6. Results of analyses, and the MDL and PQL for each analysis.

PART III: STATISTICAL AND NON-STATISTICAL ANALYSIS OF DATA

A. METHOD DETERMINATION

The discharger subject to this section shall use the most appropriate of the following methods to compare the downgradient concentration of each monitored constituent (or parameter) with its respective background concentration to determine if there has been a release from the Unit. For any given data set, the discharger shall first decide if statistical analysis is possible, by reference to the relative frequency with which the constituent is detected in background samples. For a constituent that qualifies for statistical analysis, the discharger shall proceed sequentially down the list of statistical analysis methods listed, using the first method for which the data qualifies. Those constituents for which no statistical method is appropriate shall be analyzed by the non-statistical method. If the initial statistical/non-statistical analysis tentatively indicates the detection of a release, the discharger shall implement the retest procedure under Part III.D. of this Program.

B. STATISTICAL METHODS

The discharger shall use one of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations which equal or exceed their respective Method Detection Limit in at least ten percent of the background samples taken during that Reporting Period. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be one-tailed (testing only for statistically significant increase relative to background). Each of these statistical methods is more fully described in the USEPA Interim Final Guidance Document entitled Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, dated April 1989, which is hereby incorporated by reference:

1. Intra-well Tolerance Limit Comparisons

   This method requires tolerance intervals be established and approved by the Board for each parameter at each well. The sample results of each well will be compared, parameter by parameter, to its tolerance limit. If a tolerance limit is exceeded the discharger shall conclude that a release is tentatively indicated for that parameter or constituent and shall immediately implement the retest procedure under Part III.D. of this Program.

2. One-Way Parametric Analysis of Variance (ANOVA), followed by multiple comparisons [§2550.7 (e)(8)(A) of Article 5]

   This method requires at least four independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the background data for the parameter or constituent, obtained during the given sampling period, has not more than 15% of the data below the PQL. Prior to analysis, replace all "trace" determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the discharger shall conclude that a release is tentatively indicated for that parameter or constituent and shall immediately implement the retest procedure under Part III.D. of this Program;

3. Analysis of Variance (ANOVA) of Natural Logs of Initialized Well Data

   ANOVA of the Natural Logs of the data is the procedure of choice if the preliminary analyses indicate that the conditions for ANOVA are satisfied except for any one of the following:

   - The coefficient of variation is greater than 1.0.
   - The Chi-Square statistic of standardized residuals exceeds a critical value calculated at the 5% confidence level with the degrees of freedom defined as the number of monitoring points minus three.
   - The Bartlett's statistic for equal variances exceeds a critical value calculated at the 5% confidence level with the degrees of freedom defined with the number of monitoring points minus one.

   If the use of the Natural Logs "normalize" the data (CV < 1, Chi-Square calc < Chi-Square critical value and Bartlett's statistic < Bartletts' critical value) then ANOVA is the statistical procedure of choice and is completed, in accordance with III.B.1. above, using the modified database;

4. One-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons

   This method requires at least nine independent samples from each Monitoring Point and Background Monitoring Point; therefore, the discharger shall anticipate the need for more samples per Monitoring Point, based upon

past monitoring results. This method shall be used when the background well(s) Current Constituent Data Base for the parameter or constituent has not more than 50% of the data below the PQL. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the discharger shall conclude that a release is tentatively indicated for that parameter or constituent and shall immediately implement the appropriate retest procedure under Part III.D.; or

5. Method of Proportions

This method shall be used if the "combined data set" -- the data from a given Monitoring Point in combination with the data from the Background Monitoring Points -- has between 50% and 90% of the data below the Method Detection Limit (MDL) for the constituent or parameter in question. This method **1.** requires at least nine downgradient data points per Monitoring Point per Reporting Period, **2.** requires at least thirty data points in the combined data set, and **3.** requires that $n * P > 5$ (where n is the number of data points in the combined data set and P is the proportion of the combined set that exceeds the MDL); therefore, the discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis (i.e., that there is no release), the discharger shall conclude that a release is tentatively indicated for that constituent or parameter, and shall immediately implement the appropriate retest procedure under Part III.D.; or

C. NON-STATISTICAL METHOD

The Discharger shall use the following non-statistical method for analyzing all constituents which are detected in less than 10% of applicable background samples. The method involves a two-step process:

1. From all constituents to which the method applies, compile a list of those constituents which exceed their respective Method Detection Limit (MDL) in the downgradient sample of a given Monitoring Point then

2. Evaluate whether the listed constituents meet either of two possible triggering conditions.

For each Monitoring Point, the list shall be compiled based on either the data from the single sample (for that constituent) taken during that Monitoring Period from that Monitoring Point, or in cases of multiple independent samples, from the sample which contains the largest number of constituents. The method shall be implemented as follows:

1. Version for the Volatile Organics Composite Monitoring Parameter; The discharger shall compile a list of VOCs which exceed their MDL in the Monitoring Point sample. The discharger shall conclude that a release is tentatively indicated for the VOC_{water} composite Monitoring Parameter if the list contains two or more VOCs, or contains one VOC that equals or exceeds its Practical Quantitation Limit (PQL);

2. Version for Constituents of Concern; As part of the Constituent of Concern monitoring effort required under I.B.4. of this Program, for each Monitoring Point, the discharger shall compile a list of constituents of concern that exceed their respective MDL at the Monitoring Point. The discharger shall conclude that a release is tentatively indicated if the list contains two or more constituents, or contains one constituent which equals or exceeds its PQL.

D. DISCRETE RETEST

In the event that the Discharger concludes that a release has been tentatively indicated (Parts III.B. or III.C.), the Discharger shall carry out the reporting requirements of IV.C.2. and, within 30 days of this indication, collect two new suites of samples for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per Monitoring Point as were used for the initial test. Resampling of the Background Monitoring Points is optional. As soon as the retest data is available, the discharger shall use the same statistical method (or non-statistical comparison) as that which provided the tentative indication of a release to separately analyze each of the two suites of retest data for the affected Monitoring Point. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results of either (or both) of the retest data suites confirms the original indication, the Discharger shall conclude that a release has been discovered and shall carry out the requirements of IV.C.4. of this Program. All retests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituent of Concern or Monitoring Parameter which triggered the indication there, as follows:

1. ANOVA retest; If a (parametric, natural log parametric, or non-parametric) ANOVA method was used in the initial test, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples taken from the indicating Monitoring Point;

2. Method of Proportions retest; If the Method of Proportions statistical test was used, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, carried out separately on each of the two new suites of samples from the indicating Monitoring Point;

3. Non-Statistical Method retest:

   a. For $VOC_{water;}$ because the VOC_{water} composite Monitoring Parameter is a single parameter which addresses an entire family of constituents likely to be present in any landfill release, the scope of the laboratory analysis for each of the two retest samples shall include all VOCs detectable in that retest sample. Therefore, a confirming retest shall have validated the original indication even if the detected constituents in the confirming retest sample(s) differs from those detected in the sample which initiated the retest;

   b. For COCs; Because all Constituents of Concern, that are jointly addressed in the non-statistical test under C.2. above, remain as individual Constituents of Concern, the scope of the laboratory analysis for the non-statistical retest of Constituents of Concern shall address only those constituents detected in the sample which initiated the retest.

PART IV: REPORTING

A. GENERAL

A written Detection Monitoring Report shall be submitted twice annually, winter/spring and summer/fall. The winter/spring monitoring period ends June 30, the summer/fall monitoring period ends December 31. The summer/fall report shall also meet the requirement of an Annual Summary Report. Every five years, the Discharger shall submit a report concerning the direct analysis of all Constituents of Concern as indicated in Part I.C.4. of this Program. All reports, required under this section, shall be submitted no later than one month following the end of their respective Monitoring Period. All reports shall be comprised, as appropriate, of at least the following:

1. Letter of Transmittal

   A letter transmitting the essential points shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice president or above, or by his/her duly authorized representative, if such a representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

2. Compliance Evaluation Summary

   The summary shall contain at least:

   a. For each monitored ground water body, a description and graphical presentation of the velocity and direction of ground water flow under/around the Unit, based upon water level elevations taken during the collection of the water quality data submitted in the report.

   b. For each monitoring well addressed by the report: a description of; the method and time of water level measurement, the purge and type of pump used for purging, pH, temperature, conductivity, turbidity, the well recovery time.

   c. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump, or other device, used, its placement for sampling, and a description of the sampling procedure (number of samples, field blanks, travel blanks, and duplicate samples taken; the type of containers and preservatives used; the date and time of sampling; the name and qualifications of the person actually taking the samples; description of any anomalies).

   d. Discussion of the Post-Sampling Purge method in accordance with Chapter 15 [§2550.7(e)(12)(B) of Article 5].

3. Map

   A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points. Groundwater contours shall be indicated to the greatest degree of accuracy possible.

4. Laboratory Results

   All monitoring analytical data obtained during the sampling period, presented in tabular form. Laboratory statements, concerning the results of all analyses, demonstrating compliance with Part II of this Program.

5. Standard Observations

   A summary and certification of completion of all Standard Observations (Part V.I) for the Unit, for the perimeter of the Unit, and for the Receiving Waters.

6. Intake Data

   To include:

   a. Report the total volume and weight of refuse (in cubic yards and tons) disposed of at the site during each month. Indicate average compacted density used in computations.

   b. Report the estimated total volume of waste landfilled at the site and the remaining capacity and life of the landfill.

   c. Report a description of the waste stream, include discussion of volume changes, and diversion efforts.

d. Report the location and aerial extent of waste disposal during the current monitoring period.

B. ANNUAL SUMMARY REPORT

The Discharger shall submit an annual report to the Board covering the previous monitoring year. The annual Monitoring Period ends December 31. This report may be combined with the summer/fall Monitoring Report and must meet the general requirements outlined in Part IV.A. above in addition to the following:

1. Graphical Presentation of Analytical Data

For each Monitoring Point and Background Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous three calendar years. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted data, the Executive Officer may direct the Discharger to carry out a preliminary investigation [§2510(d)(2) of Article 5], the results of which will determine whether or not a release is indicated.

2. Analytical Data

All monitoring analytical data obtained during the previous year, presented in tabular form as well as on 3.5" diskettes, either in MS-DOS/ASCII format or in another file format acceptable to the Executive Officer. The Regional Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis [§2550.8(h) of Article 5], in that this facilitates periodic review by the Board's statistical consultant. Additionally complete data histories of each well shall be submitted in hard copy form or on diskette.

3. Leachate Results

Results of annual leachate system testing as required by §2543(d) of Article 5.

4. Discussion

A comprehensive discussion of the compliance record, the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements, and progress of the cleanup operation. A summary of the ground water and surface water analyses, indicating any changes made since the previous annual report.

5. Map

A map showing the areas where filling has taken place during the previous calendar year. Indicate areas, if any, in which filling has been completed or intermediate cover has been placed.

C. CONTINGENCY RESPONSE

1. Leachate Seep

The discharger shall immediately report by telephone concerning the discovery of any previously unreported seepage from the disposal area. A written report shall be filed with the Board within seven days, containing at least the following information:

a. Map;—A map showing the location(s) of seepage;

b. Flow rate;—An estimate of the flow rate;

c. Description;—A description of the nature of the discharge (e.g., all pertinent observations and analyses); and

d. Corrective measures; approved (or proposed for consideration) by the Regional Water Board Executive Officer.

2. Response to an Initial Indication of a Release

   Should the initial statistical or non-statistical comparison (under Part III. B. or C. of this Program, respectively) indicate, for any Constituent of Concern or Monitoring Parameter, that a release is tentatively identified, the discharger shall;

   a. immediately notify their designated Regional Water Board staff by phone as to the Monitoring Point(s) and constituent(s) or parameter(s) involved;

   b. provide written notification by certified mail within seven days of such determination; and

   c. shall carry out a discrete retest in accordance with Part III.D. of this Monitoring and Reporting Program (Program).

   If the retest confirms the existence of a release, the discharger shall carry out the requirements of C.4. of this Part. In any case, the discharger shall inform the Regional Water Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

3. Physical Evidence of a Release

   If either the discharger or the Regional Water Board Executive Officer determines that there is significant physical evidence of a release [23 CCR §2550.1(3)], the discharger shall conclude that a release has been discovered and shall:

   a. immediately notify the Regional Water Board of this fact by certified mail (or acknowledge the Regional Water Board's determination);

   b. carry out the requirements of C.4. of this Part for all potentially-affected monitored media; and

   c. carry out any additional investigations stipulated in writing by the Regional Water Board Executive Officer for the purpose of identifying the cause of the indication.

4. Release Discovery Response

   If the discharger concludes that a release has been discovered the following steps shall be carried out:

   a. If this conclusion is not based upon monitoring for all Constituents of Concern, pursuant to Part I.C.4.of this Program, then the discharger shall, sample for all Constituents of Concern at all Monitoring Points in the affected medium and submit them for laboratory analysis within thirty days of discovery. Within seven days of receiving the laboratory analytical results, the discharger shall notify the Regional Water Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point; this notification shall include a synopsis showing, for each Monitoring Point, those constituents that exhibit an unusually high concentration. Because the data from this scan is not to be statistically tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point [23 CCR §2550.8(k)(1)];

   b. The discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program that;

      1. Meets the requirements of 23CCR §2550.8(k)(5) and 23 CCR §2550.9, and

      2. Satisfies the requirements of 40 CFR §258.55(g)(1)(ii) by committing to install at least one monitoring well at the facility boundary directly downgradient of the center of the release, immediately after delineating the nature and extent of the release under 23 CCR §2550.9(b);

c. The discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of 23 CCR §2550.8(k)(6); and

d. The discharger shall immediately begin delineating the nature and extent of the release by installing and monitoring assessment wells as necessary to assure that the discharger can meet the requirement [under 23 CCR §2550.9(b)] to submit a delineation report within 90 days of when the Regional Water Board directs the discharger to begin the Evaluation Monitoring Program. This report shall show the vertical and horizontal limits of the release for all Constituents of Concern. This delineation effort shall be carried out in addition to any ongoing monitoring program (e.g., detection monitoring program); nevertheless, the Discharger's delineation effort shall encompass all relevant monitoring data.

5. Release Beyond Facility Boundary

Any time the discharger concludes (or the Regional Water Board Executive Officer directs the discharger to conclude) that a release from the Unit has proceeded beyond the facility boundary, the discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

a. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.

b. Subsequent to initial notification, the discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.

c. Each time the discharger sends a notification to Affected Persons (under a. or b., above), the discharger shall, within seven days of sending such notification, provide the Regional Water Board with both a copy of the notification and a current mailing list of Affected Persons.

D. RESPONSE TO VOC DETECTION IN BACKGROUND

1. Except as indicated in D.2. below, any time the laboratory analysis of a sample from a Background Monitoring Point shows either (1) two or more VOCs above their respective MDL, or (2) one VOC above its respective PQL, the Discharger shall;

a. immediately notify the Regional Board by phone that possible Background Monitoring Point contamination has occurred,

b. follow up with written notification by certified mail within seven days, and

c. within thirty days, obtain two new independent VOC samples from that Background Monitoring Point and send them for laboratory analysis of all detectable VOCs.

If either or both the new samples validates the presence of VOC(s), at the Background Monitoring Point, the Discharger shall:

a. immediately notify the Regional Board about the VOC(s) verified to be present at that Background Monitoring Point,

b. provide written notification by certified mail within seven days of validation; and

c. within 180 days of validation, submit a report, acceptable to the Executive Officer, which; examines the possibility that the detected VOC(s) originated from other than the Unit, and proposes appropriate changes to the monitoring program.

2. If the Executive Officer determines, after reviewing the report submitted under Part IV.D.1. above, that the VOC(s) detected originated from a source other than the Unit, the Executive Officer will make appropriate changes to the monitoring program.

3. If the Executive Officer determines, after reviewing the report submitted under Part IV.D.1., that the detected VOC(s) most likely originated from the Unit, the Discharger shall assume that a release has been detected and shall immediately begin carrying out the requirements of Part IV.C.4. of this Program.

PART V: DEFINITION OF TERMS

A. AFFECTED PERSONS

All individuals who either own or reside upon the land that directly overlies any part of that portion of a gas- or liquid-phase release that has migrated beyond the facility boundary.

B. CONSTITUENTS OF CONCERN (COC)

Those constituents which are likely to be in the waste in the Unit or which are likely to be derived from waste constituents, in the event of a release. The Constituents of Concern for this Unit are listed in MRP Part I.C.4..

C. FACILITY-SPECIFIC METHOD DETECTION LIMIT (MDL)

The lowest concentration at which a given laboratory, using a given analytical method, to detect a given constituent, (in spite of any Matrix Effect) can regularly differentiate, with 99% reliability, between a sample which contains the constituent and one which does not.

D. FACILITY-SPECIFIC PRACTICAL QUANTITATION LIMIT (PQL)

The lowest constituent concentration a given laboratory, using a given analytical method, to determine the concentration of a given constituent (in spite of any Matrix Effect), can regularly quantify within specified limits of precision acceptable to the Regional Board Executive Officer.

E. MATRIX EFFECT

Any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents, either of natural origin or introduced through a release, that are present in the sample being analyzed.

F. MONITORED MEDIA

Those water bearing media that are monitored pursuant to this Monitoring and Reporting Program (MRP). The Monitored Media may include: (1) ground water in the uppermost aquifer, in any other portion of the zone of saturation (§2601 of Chapter 15) in which it would be reasonable to anticipate that waste constituents migrating from the Unit could be detected, and in any perched zones underlying the Unit, (2) any bodies of surface water that could be measurably affected by a release, and (3) soil pore liquid beneath and/or adjacent to the Unit.

G. MONITORING PARAMETERS

A short list of constituents and parameters used for the majority of monitoring activity. The Monitoring Parameters for this Unit are listed in Part I.C.2. of this Program. Monitoring for the short list of Monitoring Parameters constitutes "indirect monitoring", in that the results are used to indirectly indicate the success or failure of adequate containment for the longer list of Constituents of Concern.

H. MONITORING PERIOD

The database duration separating the submittal of a monitoring report and the time of the next report submittal. The monitoring period for analysis of all Constituents of Concern is five years; the Monitoring Period for the Monitoring Parameters is twice annually. Quarterly monitoring will be performed within the following time frames: Winter (January 1 to March 31), Spring (April 1 to June 30), Summer (July 1 to September 30), Fall (October 1 to

December 31). Bi-annual reporting will be performed within the following time frames: **Winter/Spring** (January 1 to June 30), **Summer/Fall** (July 1 to December 31). The due date for any given report will be 30 days after the end of its Monitoring Period, unless otherwise stated.

I. RECEIVING WATERS

Any surface water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils.

J. STANDARD OBSERVATIONS

1. For Receiving Waters;

   a. Floating and suspended materials of waste origin; presence or absence, source, and size of affected area;

   b. Discoloration and turbidity; description of color, source, and size of affected area;

   c. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.

   d. Evidence of beneficial use; presence of water-associated wildlife.

   e. Flow rate.

2. Along the perimeter of the Unit:

   a. Evidence of liquid leaving or entering the Unit, estimated size of affected area, and flow rate (show affected area on map).

   b. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.

   c. Evidence of erosion and/or of exposed refuse.

3. For the Unit:

   a. Evidence of ponded water at any point on the waste management facility (show affected area on map).

   b. Evidence of odors; presence or absence, characterization, source, and distance of travel from source.

   c. Evidence of erosion and/or of daylighted refuse.

   d. Rainfall data: Total precipitation during the Monitoring Period, precipitation during the most intense twenty-four hour interval during the Monitoring Period.

K. VOLATILE ORGANICS COMPOSITE MONITORING PARAMETER FOR WATER (VOC_{WATER})

Composite Monitoring Parameters addressing all volatile organic constituents detectable in a sample of water (See Part I.C.2.b. of this Program for additional discussion of this parameter).

The Discharger shall implement the above monitoring program effective April 8, 1994.

ORDERED BY: _____
Executive Officer

Appendix I of 40 CFR 258 (Subtitle D)

Common Names	CAS RN
Inorganic Constituents:	
1. Antimony	Total
2. Arsenic	Total
3. Barium	Total
4. Beryllium	Total
5. Cadmium	Total
6. Chromium	Total
7. Cobalt	Total
8. Copper	Total
9. Lead	Total
10. Nickel	Total
11. Selenium	Total
12. Silver	Total
13. Thallium	Total
14. Vanadium	Total
15. Zinc	Total
Organic Constituents:	
16. Acetone	67-64-1
17. Acrylonitrile	107-13-1
18. Benzene	71-43-2
19. Bromochloromethane	74-97-5
20. Bromodichloromethane	75-27-4
21. Bromoform;Tribormoethane	75-25-2
22. Carbon disulfide	75-15-0
23. Carbon tetrachloride	56-23-5
24. Chlorobenzene	108-90-7
25. Chloroethane;Ethyl chloride	75-00-3
26. Chloroform;Trichloromethane	67-66-3
27. Dibromochloromethane; Chlorodibromomethane	124-48-1
28. 1,2-Dibromo-3-chloropropane;DBCP	96-12-8
29. 1,2-Dibromoethane; Ethylenedibromide;EDB	106-93-4
30. o-Dichlorobenzene; 1,2-Dichlorobenzene	95-50-1
31. p-Dichlorobenzene; 1,4-Dichlorobenzene	106-46-7
32. trans-1,4-Dichloro-2-butene	110-57-6
33. 1,1-Dichloroethane; Ethylidene chloride	75-34-3
34. 1,2-Dichloroethane; Ethylene dichloride	107-06-2
35. 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidanechloride	75-35-4
36. cis-1,2-Dichloroethylene; cis-1,2-Dichloroethylene;	156-59-2
37. trans-1-2-Dichloroethylene; trans-1,2-Dichloroethene	156-60-5
38. 1,2-Dichloropropane; Propylene dichloride	78-87-5
39. cis-1,3-Dichloropropene	10061-01-5
40. trans-1,3-Dichloropropene	10061-02-6
41. Ethylbenzene	100-41-4
42. 2-Hexanone; Methyl butyl ketone	591-78-6
43. Methyl bromide; Bromoethane	74-83-9
44. Methyl chloride; Dichloromethane	74-87-3
45. Methylene bromide; Dibromomethane	74-95-3
46. Methylene chloride; Dichloromethane	75-09-2
47. Methyl ethyl ketone; MEK; 2-Butanone	78-93-3
48. Methyl iodide; Iodomethane	74-88-4
49. 4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1
50. Styrene	100-42-5
51. 1,1,1,2-Tetrachloroethane	630-20-6
52. 1,1,2,2-Tetrachloroethane	79-34-5
53. Tetrachloroethylene; Tetrachloroethene; Perchloroethylene	127-18-4
54. Toluene	108-88-3
55. 1,1,1-Trichloroethane; Methyichloroform	71-55-6
56. 1,1,2-Triichloroethane	79-00-5
57. Trichloroethylene; Trichloroethene	79-01-6
58. Trichlorofluoromethane; CFC-11	75-69-4
59. 1,2,3-Trichloropropane	96-18-4
60. Vinyl acetate	108-05-4
61. Vinyl chloride	75-01-4
62. Xylenes	1330-20-7

ATTACHMENT 1